

# Vacuum Casting System

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# Original Ideas

- ◆ Fablab Casting Method used for production of cost effective sockets
- ◆ Developing an Improved Pyramid for a Socket
- ◆ Vacuum Cast Sockets for Cost Effective Socket Product
- ◆ Force simulation of a socket

# Vacuum Casting System Overview



# Where We Currently Stand

- ◆ Integrated bag and Nozzle
- ◆ Replacement of beads with local materials
- ◆ Pump for vacuum creation
  - ◆ Bike pumps
  - ◆ Other sources of human power



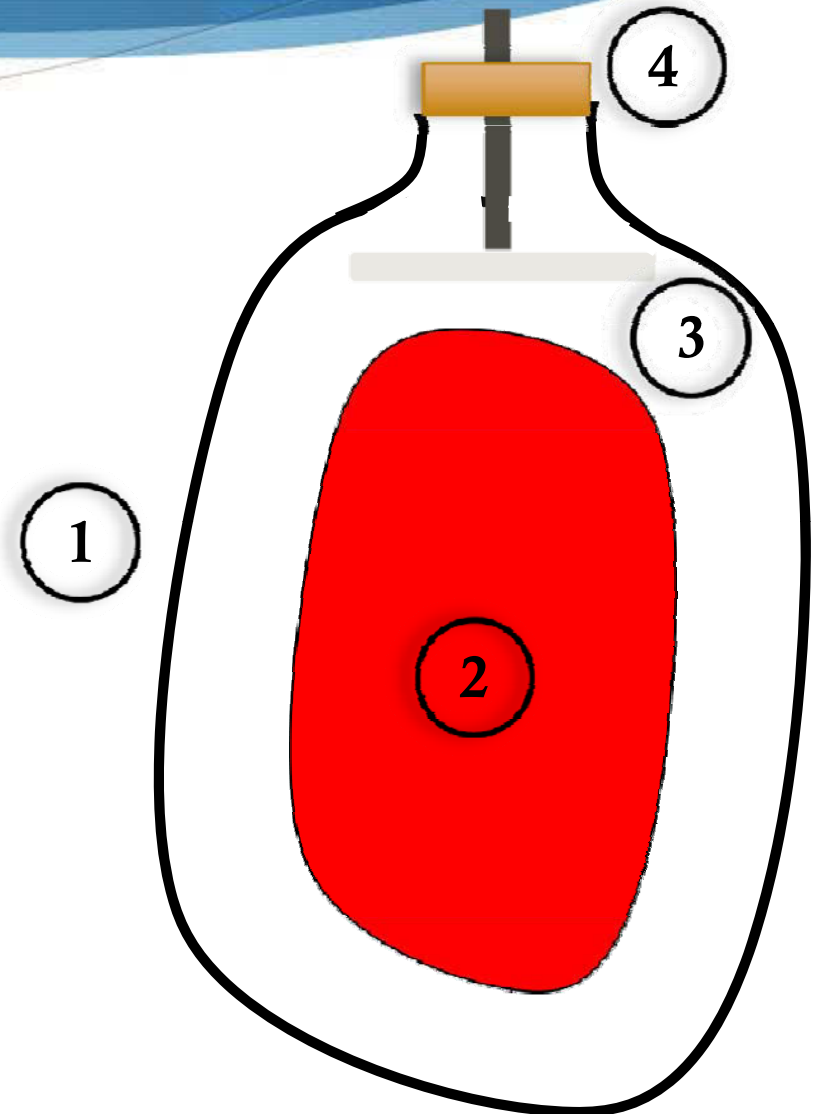
# Integrated Bag and Nozzle System

- ◆ Cheaper
  - ◆ (no need to buy/keep replenishing plastic bags)
- ◆ - Greener
  - ◆ (reusability)
- ◆ - Self contained
  - ◆ (easier to use)
- ◆ - More efficient
  - ◆ May be a more effective vacuum created because of less air loss (experimentation and examination needed)

# Diagram of Integrated Nozzle and Bag System

## Parts of the System

- ◆ 1. Outer Non-Porous Bag
- ◆ 2. Inner Pourous Bag
- ◆ 3. Air Pump
- ◆ 4. Screw Top
  - ◆ Easy Fastening





# Material Requirements

- ▲ Flexible
  - ◆ (variable stumps)
- No memory
  - ◆ (can go back to default after air is added in)
- Not porous
- Preferably cheap and easily accessible
- Durability and Longevity
- No side effects
  - ◆ (irritation, toxins etc)

# Possible Materials

- ◆ Material used in Airline pillows
- ◆ A porous material and soak into some kind of resin
- ◆ Balloon material
- ◆ Vacuum Storage Bag
- ◆ Various plastic bags
  - ◆ (thickness, exact composition, etc)



# Rough Timeline/ indicators

- Identify material
- Attaching Nozzle
- Testing
- Product Modification (Prototyping)
- Testing
- Product

# Questions and Suggestions

Feel free to ask any questions  
or give any suggestions

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